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Acceptance and Suppression as Moderators of the Relationship between Fear of Negative Evaluation and Social Anxiety Symptomatology

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Although meta-analyses of cognitive behavioral treatments for social anxiety suggest large effect sizes for these interventions, there are still a number of individuals that suffer from residual symptoms or are treatment non-responders. These results indicate that there is much more to learn in terms of enhancing treatment outcomes. Socially anxious individuals tend to selectively attend to internal states rather than external cues suggesting that an intervention focused on the acceptance of internal states (i.e., physiological arousal, anxious cognitions and emotions) may be effective in alleviating symptoms. Preliminary research incorporating acceptance based strategies for the treatment of social anxiety have demonstrated promising results. By examining the moderating role of acceptance and suppression on the relationship between fear of negative evaluation and social anxiety symptoms, we hope to gain further support for using acceptance-based strategies to improve treatment outcomes. The purpose of this thesis was to examine components of an acceptance-based model for social anxiety and to investigate the impact of thought suppression and acceptance on social anxiety symptomology. College students (n = 185) were administered the Brief Fear of Negative Evaluation (BFNE), Social Phobia Inventory (SPIN), Acceptance and Action Questionnaire-II (AAQ-II), and the White Bear Suppression Inventory (WBSI). It was hypothesized that acceptance would moderate the relationship between fear of negative evaluation and social phobia symptoms, such that fear of negative evaluation would be more positively related to social phobia symptoms when acceptance is low than when acceptance is high, whereas suppression would moderate the relationship between fear of negative evaluation and social phobia symptoms, such that fear of negative evaluation would be more positively related to social phobia symptoms when suppression is high than when suppression is low. Fear of negative evaluation, acceptance, and suppression were significant predictors of social phobia symptoms but the overall moderation models were not supported. Implications of the clinical impact in terms of case conceptualization and treatment for social anxiety disorder are discussed.

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ACCEPTANCE AND SUPPRESSION AS MODERATORS OF THE RELATIONSHIP BETWEEN FEAR OF NEGATIVE EVALUATION AND SOCIAL ANXIETY SYMPTOMATOLOGY

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Abstract

Although meta-analyses of cognitive behavioral treatments for social anxiety suggest large effect sizes for these interventions, there are still a number of individuals that suffer from residual symptoms or are treatment non-responders. These results indicate that there is much more to learn in terms of enhancing treatment outcomes. Socially anxious individuals tend to selectively attend to internal states rather than external cues suggesting that an intervention focused on the acceptance of internal states (i.e., physiological arousal, anxious cognitions and emotions) may be effective in alleviating symptoms. Preliminary research incorporating acceptance based strategies for the treatment of social anxiety have demonstrated promising results. By examining the moderating role of acceptance and suppression on the relationship between fear of negative evaluation and social anxiety symptoms, we hope to gain further support for using acceptance-based strategies to improve treatment outcomes. The purpose of this thesis was to examine components of an acceptance-based model for social anxiety and to investigate the impact of thought suppression and acceptance on social anxiety symptomology. College students (n = 185) were administered the Brief Fear of Negative Evaluation (BFNE), Social Phobia Inventory (SPIN), Acceptance and Action Questionnaire-II (AAQ-II), and the White Bear Suppression Inventory (WBSI). It was hypothesized that acceptance would moderate the relationship between fear of negative evaluation and social phobia symptoms, such that fear of negative evaluation would be more positively related to social phobia symptoms when acceptance is low than when acceptance is high, whereas suppression would moderate the relationship between fear of negative evaluation and social phobia symptoms, such that fear of negative evaluation would be more positively related to social phobia symptoms when suppression is high than when suppression is low. Fear of negative evaluation, acceptance, and

suppression were significant predictors of social phobia symptoms but the overall moderation models were not supported. Implications of the clinical impact in terms of case conceptualization and treatment for social anxiety disorder are discussed.

Keywords: social anxiety, acceptance, suppression

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Acceptance and Suppression as Moderators of Social Anxiety Symptomatology

Social Anxiety Disorder (SAD) is considered to be one of the most common and undertreated anxiety disorders. It is characterized as a pathological fear of negative evaluation from others in one or more social or performance situations in which the person fears that he or she will display anxiety symptoms or will act in a way that will be humiliating or embarrassing, leading to physiological arousal that can take the form of a panic attacks and debilitating avoidance of the feared situation (American Psychiatric Association [DSM-IV-TR], 2000) (see Table 1).

The typical of onset for SAD is in childhood and adolescence with the vast majority of individuals (95%) reporting onset before the age of 35 (Kessler et al., 2005). Wittchen and Beloch (1996) suggest that individuals with SAD on average report being clinically impaired by their symptoms for more than 20 years suggesting that people spend a significant amount of time struggling with this disorder. Although SAD has a lifetime prevalence rate of roughly 12%, only an estimated 1/3 of those who suffer from the disorder report receiving treatment for SAD specifically (Ruscio, Brown, Chiu, Sareen, Stein, & Kessler, 2007). In a national comorbidity survey, Ruscio et al. (2007) found a relationship between higher number of social fears and greater impairment, and that individuals with increased impairment were less likely to seek treatment indicating that those who need help the most are the least likely to seek it.

Individuals diagnosed with SAD are likely to experience another major comorbid disorder in their lifetime. According to a national comorbidity study (Ruscio et al., 2007), nearly 62-90% of respondents meet the criteria for at least one other lifetime DSM-IV diagnosis. Participants who endorsed having a higher number of fears were also more likely to also endorse comorbid disorders, indicating that increased severity of social anxiety is associated with

comorbidity. Most commonly, SAD is associated with increased rates of depression, other anxiety disorders such as Generalized Anxiety Disorder, alcohol use disorders, and increased odds of suicide attempts (Chartrand, Cox, El-Gabalawy, & Clara, 2011; Ruscio et al., 2007; Schneier et al., 2010). Increasingly, SAD is thought to be a premorbid risk factor for Alcohol Use Disorder (Buckner & Schmidt, 2009), suggesting that social anxiety can put an individual at risk for developing other problematic behaviors.

Social anxiety can have pervasive, long-lasting effects on an individual's life. The impact of the condition is linked to decreases in pro-social responding (Mallott, Maner, DeWall, & Schmidt, 2009), lower social performance (Voncken, Alden, Bogels, & Roelofs, 2008), as well as lifestyle influences such as smaller social networks, and health problems such as increased rates of alcohol problems. The effect of social anxiety often results in increased social rejection, which leads to increased social anxiety, such that the individual is then caught in a pervasive cycle that perpetuates his or her anxiety. Wittchen and Beloch (1996) found that 23.1 % of individuals with SAD reported being severely impaired and 24.6% endorsed being significantly impaired. Furthermore, individuals with SAD were three times more likely to be unemployed and were significantly more likely to miss work due to social anxiety problems as compared to participants without a SAD diagnosis (Wittchen & Beloch, 1996).

Anxiety disorders including SAD impose a substantial economic burden as well. Annually, anxiety disorders cost the U.S. more than $42 billion, almost one-third of the country's $148 billion total mental health bill (Greenberg et al., 1999). Roughly 54% of the total cost is in non-psychiatric medical treatment costs, 31% can be attributed to psychiatric treatment costs, while 10% to indirect workplace costs, 3% to mortality costs, and 2% to prescription

pharmaceutical costs (Greenberg et al., 1999). Furthermore, 88% of the workplace costs per anxious worker is due to lost productivity as opposed to absenteeism (Greenberg et al., 1999).

Overall, anxiety disorders in general and SAD in particular inflict significant negative effects at both the individual and societal level. Nonetheless, the impact of the disorder may be decreased or avoided altogether if appropriate and effective prevention and intervention strategies are implemented.

Review of the Literature

Cognitive Behavior Therapy (CBT) for SAD: Traditional Treatment

There have been multiple meta-analyses examining the efficacy of CBT in the treatment of SAD. In analyzing the relative efficacy of CBT versus medication, one of which specifically looked at CBT compared to medication (i.e., benzodiazapines and selective serotonin reuptake inhibitors [SSRIs]), Gould, Buckminster, Pollak, Otto, and Yap (1997) found that both CBT and medication are relatively equally effective treatments for SAD—they both yielded large effect sizes (.74 and .62 respectively) that were not significantly different from each other. Fesk and Chambless (1995) examined the relative efficacy of various elements of CBT and discovered that treatments that utilized exposure techniques had a larger effect size than those using cognitive restructuring alone. This was the case whether exposure was used alone or with cognitive restructuring suggesting that exposure is an important component of treatment.

Stewart and Chambless (2009) conducted a meta-analysis examining the effectiveness of CBT under less-controlled "real world" (p. 595) clinical conditions. Of the 56 effectiveness studies for adult anxiety disorders, 11 specifically examined SAD. Treatments using CBT in clinically representative conditions for the treatment of SAD produced large effect size (1.04) for the reduction of social anxiety symptoms. Furthermore, CBT produced significant pretest-

posttest reductions in depressive symptoms with a moderate effect size (.73). In those studies comparing to control groups, the results suggest that treatments using CBT techniques in clinically representative settings for treatment of anxiety produce significantly larger treatment effect sizes than treatment as usual or waitlist control groups. The results suggest that CBT for SAD is also effective in clinically representative conditions and not just efficacy trials.

Although meta-analyses of cognitive behavioral treatments for social anxiety have indicated that there are large effect sizes for these interventions, a number of individuals do not respond to these treatments or continue to experience residual symptoms (Heimberg et al., 1998), indicating that there is more to learn in terms of enhancing treatment outcomes.

CBT model of SAD

There are multiple models of the etiology and maintenance of SAD that are used to inform CBT treatment. These tend to either focus more on cognitive or behavioral elements of the disorder and treatment. For example, the Clark and Wells (1995) model emphasizes the cognitive component, which begins when the individual enters a feared social situation. The first thing that happens when the individual is faced with a feared social situation is that negative predictions and expectations that lead to anxiety are activated. A review of information processing in social phobia suggests that individuals with social phobia selectively attend to socially threatening information (Heinrichs & Hofmann, 2001) and that this bias is specific to probability and cost of negative social events and not for negative nonsocial events. In other words, the core fear is of negative social events. This activation leads to a situation being perceived as dangerous, in which socially anxious individuals predict they will fail to achieve a desired level of performance. This also leads socially anxious individuals to interpret generally benign social cues as negative evaluations. Individuals with social phobia appear to have a

judgmental bias where they have a tendency to misinterpret social situations and are more likely to infer something negative from social stimuli (for review see Heinrichs & Hofmann, 2001).

In the next step of the Clark and Wells (1995) model, socially anxious individuals evaluate themselves as social objects (Hackman, Clark, & McManus, 2000). They shift attention to self-observation and preoccupation (Herbert & Cardaciotto, 2005), which increases their sensations of anxiety. The individual can become trapped in this closed system where contradictory evidence is inaccessible or ignored and their own sensations and perceptions confirm their beliefs. Safety behaviors are implemented in hopes to prevent negative outcomes, which are negatively reinforced and tend to increase anxiety and self-awareness (Vassilopoulos, 2009). The final step of this model is the production of somatic and cognitive symptoms of social anxiety. Also, rumination and self-criticism, which can be conceptualized as self-evaluation based on excessive awareness of anxiety and small mistakes, serve to reinforce the initial assumptions and perpetuate the cycle. The model includes the existence of a memory bias towards socially threatening information that has not been supported in clinical samples (Heinrichs & Hofmann, 2001).

The Rapee and Heimberg (1997) model of SAD emphasized biological factors including genetic predisposition. In the Rapee and Heimberg model (1997), appraisal expectations of others in social situations are emphasized. The first component of this model is the conceptualization of social anxiety on a continuum, occurring at varying levels within the population. For individuals toward the social anxiety end of the continuum, there is a core belief that other people are "inherently critical" (Leary, Kowalski, & Campbell, 1988). Individuals with SAD attach a greater value to the positive evaluation of others. Foa and Kozak (1986) suggest that overestimated probabilities and exaggerated costs estimation of negative outcomes

or consequences of social situations characterize social anxiety. Amir, Foa, and Coles (1998) found that individuals with the generalized subtype of SAD were more likely to interpret social scenarios that were rated as "likely to come to mind" as negative, whereas OCD and low anxious controls did not demonstrate this bias. Similar to the Clark and Wells (1995) model, when faced with a social situation, individuals with SAD form a mental representation of themselves and allocate their attentional resources to themselves. This representation of both physical appearance and behaviors are as they assume others may perceive them.

In the next component of the model, the anxious individual automatically monitors any perceived potential threat from the external source or any indicators of negative evaluations as they compare their mental representation of themselves to the expected standard (Wallace & Alden, 1997). Then individuals judge the probability and consequences of a negative evaluation from others, which leads to behavioral, cognitive, and physical symptoms of anxiety. It is proposed that the anxiety stems from a perceived discrepancy between an individual's ability and what they believe to be the expectations of others. Rapee and Heimberg (1997) argue that this heightened anxiety reaction to processing biases of evaluative information in social situations also serves to maintain social anxiety (Mansell & Clark, 1999).

In a third model, Hofmann and Barlow (2002) highlight a biological predisposition to social anxiety. They propose that all humans are sensitive to criticism, anger, and social disapproval for evolutionary reasons. The model begins with a generalized psychological and biological vulnerability to anxious apprehension. Anxious apprehension can be characterized as a future oriented mood state preparing to cope with an anxiety provoking situation (Barlow, 2002). The second part to the model is exposure to anxiety provoking social interactions. This anxiety provoking event can be a direct experience that triggers a strong physiological fear response

(panic attack or "true alarm") or stressors (false alarms) that can involve more feelings of embarrassment or shame. Some life events can trigger a "social alarm" or burst of emotions (Hofmann, 2005) that is similar to a PTSD-like response where individuals are anxious over a possible loss of control of their emotions (Hofmann & Barlow, 2002). These alarms, complicated by the distracting function of arousal-driven cognitive worry, can lead to a self-focusing style of attention and the "anxious apprehension" response. The distracting function of worry and anxious apprehension interferes with fear processing that could provide evidence that disconfirms the fear that social evaluation is dangerous. This maintains the core belief that negative social evaluations are dangerous and leads to the fear of negative evaluation that characterizes social anxiety.

Fear of negative evaluation. The theme that becomes apparent within the different models of social anxiety is that a fear of negative evaluation is core in the development and maintenance of this disorder. Fear of negative evaluation (FNE) as a construct can be defined as the sense of dread associated with potentially being negatively evaluated by others while either participating or anticipating a social situation (Heimberg et al., 2005). Social anxiety and FNE are proposed to be distinct but highly related constructs. Social anxiety may be therefore conceptualized as a response to a fear of negative evaluation. Safety behaviors, overt avoidance, and attentional and judgment biases in social anxiety are all aimed at avoiding any possible negative evaluation from others. Along with traditional CBT for social anxiety, newer cognitive-behavioral protocols targeting the specific components of the CBT models are gaining empirical support (Hofmann, 2007; Hofmann, 2010). As the conceptualization of social anxiety grows, so does the understanding of the mediators and moderators of the mechanisms of pathology, which

can further guide advances in treatment. One such advance in the treatment of anxiety disorders is the integration of the concept of acceptance into behavioral therapy.

Acceptance and CBT

Acceptance-based and other "third-wave" behavioral therapies, such as Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 1999) are becoming one of the most actively researched and practiced anxiety treatments (Forman, Herbert, Moitra, Yeomans, & Geller, 2007). ACT proposes that all thoughts are an integral part of the human experience. Pathology is thought to be largely due to "fusion" with distressing thoughts and feelings and the resulting attempts to control or eliminate the distressing internal experiences (Hayes, Strosahl, Twohig, & Wilson, 2004).

The ACT model (Hayes, Strosahl, & Wilson, 1999) proposes three main interrelated elements, the first being that problems are seen as originating from the way the individuals relate to their experiences. The relationship between individuals and their experiences can become fused or individuals over-identify with their thoughts, feelings, or sensations. It is proposed that this over-identification or "fusion" with internal experiences causes a multitude of problems.

The second component to this model is experiential avoidance, which is defined as efforts to avoid the unwanted internal experience (Hayes, Strosahl, & Wilson, 1999). These avoidance strategies can take the form of thoughts, behaviors, or emotions. These deliberate attempts to control internal experiences can be ineffective or ironically actually cause an increase in anxiety or other undesirable mood states.

The final component to this model is behavioral restriction, which occurs when individual attempts to avoid unwanted experiences. Behavioral restriction results in acting in ways that are inconsistent with values. This attempt to control or avoid the undesirable state

(anxiety) results in the individual restricting his or her behavior and distances him or her from her valued actions causing further distress (Michelson, Lee, Orsillo, & Roemer, 2011).

ACT proposes a different intervention for working with problematic cognitions than traditional CBT and cognitive restructuring. Instead of viewing anxious thoughts or cognitions as errors that need to be changed, ACT attempts to help individuals clarify their values and identify the barriers to reaching their values-related goals. In ACT, a key goal is to simultaneously promote psychological acceptance while discouraging deliberate attempts to control one's experience such as experiential avoidance or thought suppression. Individuals are taught to "defuse" from their distressing internal experiences and encouraged to view and accept their experiences as they move towards valued goals. The identification of personal values is key in this therapeutic approach as an increase in values consistent behavior is correlated to quality of life (Michelson et al., 2011).

Roemer and Orsillo (2009) elaborated on the ACT conceptual model of anxiety for Acceptance-Based Behavior Therapies (ABBT). For example, individuals experiencing anxiety may judge an anxiety-provoking experience to be intolerable and never-ending. After individuals with anxiety judge this experience to be intolerable, they may attempt to suppress their anxious thoughts or avoid their internal experience by distracting themselves with a different activity. The anxious person avoids valued activities or situations that may potentially cause distress. This attempt to control or avoid the undesirable state (anxiety) results in the individual restricting his or her behavior and distances him or her from thier valued actions causing further distress.

ABBT for anxiety incorporates three main components including psychoeducation about the function of worry, anxiety, emotion, and experiential avoidance, practice using mindfulness-

and acceptance-based strategies as a different response to distressing internal experiences, and identification of valued directions with an emphasis on making choices to act in accordance with personal values (Roemer & Orsillo, 2007; Roemer & Orsillo, 2009). Roemer and Orsillo (2009) acknowledge that there is some debate as to whether acceptance-based behavior therapies "add something new" (p. 3) to traditional CBT, but suggest that acceptance-based approaches are "part of an evolution of the CBT tradition" (p. 3).

Arch and Craske (2008) argue that there may be more similarities than differences between ACT and CBT for anxiety disorders. They argue that ACT valued based action is more explicit than CBT's goal of symptom reduction but they are not mutually exclusive stating "it seems unlikely that CBT therapists aim to reduce anxiety so that their clients can do nothing all day" (p. 270). They also suggest that ACT's emphasis on valued-driven behavior may result in behavioral exposures that are very similar to CBT's explicit targeting of exposure hierarchies and reduction of fear-related cognitions.

There is some evidence to support the hypothesis that ACT and traditional CBT may use different mechanisms of action. Forman and colleagues (2007) evaluated ACT and Cognitive Therapy (CT) in a naturalistic setting. The setting included a relatively heterogeneous population and novice therapists in a training clinic in hopes of an increased ability to generalize the results. Participants with moderate to severe levels of anxiety and depression were randomly assigned to either a CT or ACT treatment. The rate and degree of participant improvement did not differ between groups indicating that ACT and CT have similar levels of effectiveness for reducing anxiety and depression and increasing wellbeing. Where the two groups differed is in the apparent mechanisms of action. As hypothesized, since the focus of CT is to rationally and deliberately work with the content of dysfunctional thought, changes in "observing," and

"describing" one's experience has a stronger relationship with outcomes in the CT group as compared to the ACT group. Conversely, experiential avoidance, acting with awareness, and acceptance had a stronger relationship with outcomes in the ACT group as compared to the CT group. The results indicate that ACT and acceptance-based protocols may operate with different mechanisms of action than traditional CT.

Zettle (2003) examined ACT as an intervention for math anxiety. A group of college students who endorsed experiencing math anxiety were randomized to 6-weeks of either ACT or systematic desensitization. Both groups obtained a significant reduction in reported math and test anxiety and the reduction did not differ depending on treatment. The systematic desensitization group reported significant decreases in trait-anxiety whereas the ACT group did not. Pretreatment level of experiential avoidance was more strongly related to therapeutic change among those in the ACT group than the systematic desensitization group, further suggesting that there may be different mechanisms of action between the two treatments.

Acceptance-Based Behavior Therapy (ABBT; Roemer, Orsillo, Salters-Pedneault, 2008) incorporates ACT strategies and mindfulness exercises into traditional CBT. In a randomized controlled trial evaluating the efficacy of ABBT, 31 participants who met criteria for Generalized Anxiety Disorder (GAD) were randomly assigned to ABBT or a wait-list control group. Individuals in the treatment group had significantly better outcomes in GAD clinician severity rating, number of diagnoses, anxiety, worry, depressive symptoms, and quality of life ratings. Furthermore, the treatment group had significantly lower levels of experiential avoidance, fear of emotions, and emotion dysregulation indicating that ABBT did target the proposed mechanisms of action. Roughly 62% of the participants met criteria for high end state functioning, which is similar to previous studies for CBT (Borkovec & Costello, 1993; Ladouceur et al., 2000).

Darymple and Herbert (2007) evaluated the efficacy of integrating exposure therapy and ACT for 19 individuals diagnosed with SAD, generalized subtype. After a 12-week treatment, participants improved significantly on measures of social anxiety and quality of life. Furthermore, participants reported less experiential avoidance, increased acceptance, and greater control over emotional reactions, supporting the idea that experiential avoidance and acceptance are mechanisms of action in ACT.

Block (2004) compared the efficacy and mechanisms of action of brief public speaking workshops based on a 3-session ACT and group CBT (GCBT) for college students with public speaking anxiety. Participants were randomly assigned to either the ACT, GCBT, or control group. The results suggest that both ACT and GCBT are effective at reducing anxiety and avoidance, as well as increasing willingness to participate. Furthermore, at post-treatment there was a negative correlation between changes in anxiety and changes in willingness for the GCBT group whereas there was no correlation between changes in anxiety and changes in willingness for the ACT group. Neither group had significant correlations between changes in anxiety and changes in willingness at 1-month follow-up. ACT appeared to reduce behavioral avoidance over GCBT but did not result in a greater decrease in reported avoidance indicating that although the ACT group engaged in less avoidance after treatment, they did not report doing so. The results were inconclusive in regards to a different mechanism of action for the ACT group compared to the GCBT group.

Goldfarb (2009) evaluated the proposed mechanisms of action of CT (i.e., cognitive restructuring) and ACT (i.e., acceptance) in the treatment of public speaking anxiety. College students who met inclusion criteria for public speaking anxiety were randomly assigned to a 15-minute intervention of cognitive restructuring, acceptance-based cognitive intervention, or a

psychoeducation control group. Participants prepared and delivered a short speech as a behavioral task to elicit anxiety. The results did not support the hypotheses, as there was no significant difference between any of the three conditions on proposed mechanisms of change. However, Goldfarb (2009) noted that the brief intervention may not have been long enough to create differences between groups.

Recent research has produced mixed evidence that acceptance based therapies utilize a different mechanism of action than traditional CBT approaches for anxiety disorders. There appears to be some research to support the proposed mechanisms of action in acceptance-based behavior therapies for GAD (Forman et al., 2007; Roemer & Orsillo, 2008) and math anxiety (Zettle, 2003), but social anxiety has inconsistent results (Block, 2004; Goldfarb, 2009). Further investigation into the proposed acceptance models of anxiety may provide insight into mechanisms of pathology and principles of change of this type of therapy.

Acceptance Model of SAD

Building on the work of previous CBT models, Herbert and Cardiaciotto (2005) recently proposed an acceptance-based model of social anxiety. The model starts with a genetic predisposition towards social anxiety. Without this, a situation will only produce minimal arousal. This predisposition and anxiety provoking situations (i.e., trigger) produce physiological arousal and thoughts related to negative social evaluation. Both the predisposition and situation are dynamic in that they are continuous and vary across individuals. Both the predisposition and the triggering situation are required to produce anxiety-related thoughts and feelings. The anxious thoughts and feelings are then a trigger to increased internal awareness and decrease in awareness of external cues (resulting in self-focused awareness). The

nonjudgmental acceptance component is critical at this point because increased awareness of internal arousal depends on individual's level of acceptance.

Herbert and Cardiacciotto (2005) hypothesized that individuals with high levels of acceptance will notice the anxious thoughts and physiological arousal without attempting to control, escape or avoid the sensations or trigger: ultimately resulting in a minimal impact on behavior. Conversely, individuals with low levels of acceptance will reflexively attempt to control their anxious experience including suppression or distraction strategies or rationalizing their feelings, which may only work to temporarily decrease anxiety, but ultimately maintain the anxiety.

Acceptance and Suppression

Acceptance in this model appears to be the opposing force of suppression as suppression may be viewed as an attempt to change one's internal experience (Hayes, Strosahl, & Wilson, 1999). In ACT, attempts to control one's internal experiences are seen as the problem. It is presumed that suppression of internal experiences (including thought suppression) is a relatively ineffective avoidance strategy (Abramowitz, Tolin, & Street, 2001). The solution is proposed to be in the full acceptance of emotions and bodily sensations, without avoidance, in order to engage in valued action.

Thought Suppression. According to ironic process theory (Wegner & Erber, 1992) two mechanisms are involved in attempts to suppress thoughts: one mechanism is an effortful conscious search for a replacement (distracter) thought and another mechanism simultaneously searches for failures in suppression (automatic target search). The theory posits that the more the individual searches for a replacement thought, the more the stimuli become associated with the

automatic thought and therefore the automatic thought gains more cues for it, producing a paradoxical effect.

Results from a metaanalysis of thought suppression in 28 controlled studies (Abaomowitz, Tolin, & Street, 2001) indicate that thought suppression can be a useful strategy over a limited period of time. However, as time progresses and/or individuals relax their efforts they experience a rebound effect (resurgence of thoughts). The results also indicated a small to moderate rebound effect regardless of whether the participant was a member of a clinical or nonclinical population. Personal relevance and the valence of the target thought did not appear to affect the rebound effect although larger rebound effects were found with non-discrete target thoughts (e.g., a story) than with discrete targets (e.g., white bear). This is consistent with the automatic target search portion of the ironic process theory as a story is more likely to contain more cues to other thoughts by the nature of it being longer and more diverse than a discrete target. Abramowitz et al. (2001) proposed that thought suppression may also lead to changes in the perceived relevance, valence, or vividness of the target thought. They also proposed that a failure to suppress thoughts may result in "catastrophic appraisal of the meaning" (p. 701) such that the individual assumes that the failure to suppress is a sign of weakness. The interaction between suppression failures and catastrophic appraisals about what these failures mean may lead to increases in anxiety about intrusive unacceptable thoughts. These results suggest that thought suppression may not be an overall effective strategy for reducing anxiety. Acceptance of distressing or anxiety-provoking thoughts instead of active thought suppression may help to reduce the impact of the unwanted thoughts.

Acceptance vs. suppression. Campbell-Sills, Barlow, Brown, and Hofmann (2006) evaluated general emotional suppression for anxiety and mood disorders. Sixty participants with

anxiety or mood disorders and 30 non-clinical control participants rated their emotional experience and emotion regulation following exposure to an emotion-provoking film. Clinical participants reported more use of suppression emotion regulation strategies and judged their emotions less acceptable than the non-clinical participants. The overall difference in use of suppression strategies was attributable to increased use of suppression by female participants in the clinical group compared to the non-clinical group. In the clinical group, rating emotions as unacceptable mediated the relationship between the intensity of negative emotion intensity and the use of suppression strategies. Also, individuals who engaged in high levels of suppression reported more negative emotions during and after the film compared to those who engaged in moderate or low levels of suppression. The authors suggest that emotional suppression may be a defining feature in emotional disorders, especially in females.

Campbell-Sills, Barlow, Brown, and Hofmann (2006) also examined the difference between effectiveness of suppression strategies compared to acceptance strategies. Similar to the study above, sixty individuals diagnosed with anxiety and mood disorders were randomly assigned to groups listening to a rationale for either suppressing emotions or accepting emotions. Participants were measured based on subjective distress, heart rate, skin conductance level, and respiratory sinus arrhythmia before, during, and after exposure to an emotionally provocative film. The groups did not differ in terms of subjective distress during the film or on measures of skin conductance or respiratory sinus arrhythmia, but the acceptance group reported less negative affect post-film than did the suppression group, indicating that individuals in the suppression group had a poorer recovery from negative affect than the acceptance group. Also, the suppression group showed an increased heart rate while the acceptance group showed a decreased heart rate after the film. The results suggest that suppression strategies may be less effective at reducing negative emotions than acceptance strategies.

Liverant, Brown, Barlow, and Roemer (2008) evaluated the effects of emotional suppression and acceptance in a depressed sample. Participants were exposed to a short emotionally provocative movie and evaluated in terms of spontaneous use of emotion regulation strategies. Then, after a recovery period, they were randomized to either receive directions on suppression strategies or acceptance strategies before exposure to a second emotionally provoking video clip. The results suggested that both acceptance and suppression strategies may be helpful for depressed individuals to regulate sadness in the short-term. One possible explanation from the authors is that suppression may have served as the same function as distraction techniques. Also notable, is the finding that anxiety about the experience of depressed mood was a moderator of the effectiveness of suppression. Suppression was effective at reducing short-term experience of sadness following the film at lower levels at lower levels of anxiety about depressed mood, but this effect disappeared at moderate and higher levels. The results indicate that individuals who are anxious about their emotional experience may benefit more from acceptance versus suppression strategies.

Tull, Jacupcak and Roemer (2010) examined the delayed effects of emotional suppression versus acceptance. Individuals were either instructed to suppress or allow their emotional responses while watching an emotionally provocative film clip. Participants instructed to allow their emotional responses reported a reduction subjective distress compared to the suppression condition, where participants reported no reduction in subjective distress. All participants were then entered into a mildly emotionally provocative interpersonal scenario. Suppression participants experienced an increase in heart rate and subjective distress compared to acceptance participants. Acceptance participants also reported being more willing to watch

the film clip again. Overall, the results indicate that there may be a delayed negative effect of emotional suppression as well as an immediate one.

Eifert and Heffner (2003) examined the difference between the effects of acceptance and suppression strategies for anxiety, specifically panic-related symptoms. Participants who where high in anxiety sensitivity were either taught an acceptance technique (mindful observation) or a control/suppression technique (diaphramatic breathing). A third group received no instruction as a control condition. All participants were exposed to two 10-minute periods of the anxiogenic stimulus of 10% carbon dioxide enriched air. Participants in the acceptance condition were less behaviorally avoidant than both the suppression and no instruction groups as measured by latency before beginning each trial, drop-out rates, and willingness to return for another experiment. Participants in the acceptance condition also reported less intense fear and cognitive symptoms and fewer catastrophic thoughts during the trials suggesting that acceptance may be a useful strategy for reducing anxiety and avoidance associated with panic symptoms.

Levitt, Brown, Orsillo and Barlow (2004) expanded on the previous study and examined the relative efficacy of acceptance and suppression strategies for regulating anxiety in Panic Disorder. Participants diagnosed with Panic Disorder were randomly assigned to listen to one of three 10-minutes audiotapes outlining either suppression strategies (participants were instructed to gain control of thoughts by pushing negative or unwanted thoughts away), acceptance strategies based on ACT (Hayes, Strosal, Wilson, 1999) highlighting that attempts to control thoughts and emotions are futile and that focusing on behaviors that are consistent with values is a more functional way of living, or to a no-instruction control group, which listened to a *National Geographic* article. All participants were exposed to a 15 minutes 5.5% carbon dioxide challenge as an anxiety-provoking stimulus. Individuals in the no-instruction control group were

more likely to use suppression strategies than acceptance strategies, and used these strategies significantly more often than those in the acceptance group, indicating that individuals with panic disorder typically use this strategy without instruction. Individuals in the acceptance group reported less subjective anxiety and avoidance (as measured by willingness to participate in a second challenge) than did those in the suppression or control groups. There was no significant difference between any of the groups on either the self-reported panic symptoms or physiological measures of heart rate or skin temperature. The results indicated that although participants did not differ in terms of physiological arousal or symptoms experienced, their perception of the experience significantly differed depending on strategy use to regulate anxiety with acceptance resulting in lower subjective anxiety.

Overall, there is evidence to suggest that suppression strategies may not be effective at the delayed reduction negative emotions, although there is mixed evidence to support the use of suppression strategies for immediate reduction of negative emotions. A different strategy such as acceptance may be a more effective emotion regulation strategy for negative emotions, specifically anxiety.

Study Summary and Rationale

Preliminary research incorporating mindfulness and acceptance based strategies for the treatment of social anxiety has demonstrated promising results (Bogels, Sijbers, & Voncken, 2006; Dalrymple & Herbert, 2007). No study to date has evaluated the role of acceptance or suppression in moderating the relationship between fear of negative evaluation and social anxiety. Therefore, the purpose of this thesis is to examine the moderating effect of acceptance and suppression in the relationship between fear of negative evaluation and social phobia symptoms, in order to gain further support for use of acceptance and mindfulness based

strategies to improve treatment outcomes. By understanding the model and mechanisms of pathology of social anxiety, we hope to inform future treatment.

Hypotheses

Hypothesis 1. Fear of negative evaluation, suppression, and acceptance would be significant predictors of social anxiety symptoms. More specifically, fear of negative evaluation and suppression were expected to have a positive relationship with social anxiety symptoms and acceptance was expected to have a negative relationship with social anxiety symptoms.

Hypothesis 2. It was expected that acceptance would moderate the relationship between fear of negative evaluation and social anxiety symptoms, such that individuals low in acceptance would demonstrate a stronger relationship between fear of negative evaluation and social phobia symptoms than individuals who are high in acceptance.

Hypothesis 3. It was expected that suppression would moderate the relationship between fear of negative evaluation and social anxiety symptoms such that individuals high in suppression would demonstrate a stronger relationship between fear of negative evaluation and social phobia symptoms than individuals who are low in suppression.

Method

Power Analysis

A power analysis using G*Power 3.1(Faul et al., 2009), indicated that with a total sample size of 119 is recommended to detect significance using the F test with Linear Multiple Regression: Fixed Model, R-squared increase and the following input parameters: alpha = .05, power = .95, effect size moderate (*f*-squared = 0.15), 3 tested and total predictors (fear of negative evaluation, acceptance, and suppression).

Participants

Current undergraduate students who were 18 years or older and spoke English fluently were recruited from APA accredited universities to participate in the study. Appendix A provides demographic data on the sample. All participants were given the option to participate in a drawing to win one of eight $20 gift cards to Amazon.com as an incentive for completing the surveys. A total of 214 students participated in the current study. Twenty-eight participants were excluded from the analysis due to incomplete surveys and one participant was excluded for not meeting the inclusion criteria, for a total of 185 participants, 24.3% (45) men and 75.1% (139) women, and one identifying as other. Those that did not meet the inclusion criteria or did not complete the survey were excluded from the analysis. The average age of the participants was 21.01 years and ranged from 18 to 46. The sample had relatively little ethnic diversity (1.6% African American or Black, 18.9%Asian or Pacific Islander, 3.2%Latino or Hispanic, 1.1% American Indian or Alaskan Native, 71.4% White or of European Origin, 7% other).

Measures

Demographic Questionnaire. This instrument was developed by the principle investigator and faculty advisor. The questionnaire asks participants to provide the following demographic information: age, gender, ethnicity, and grade point average.

Brief version of the Fear of Negative Evaluation Scale (BFNE). The Brief FNE (Brief FNE; Leary, 1983) is a 12-item measure assessing concerns of negative evaluation by others. Items are rated on a 5-point Likert-type scale ranging from 1 (*not at all characteristic of me*) to 5 (*extremely characteristic of me*). The Brief FNE has good test–retest reliability (r = .75) and internal consistency (α =.90 –.91) in undergraduate samples (Leary, 1983). The BFNE has been shown to have good concurrent validity with other measures of social anxiety and correlates highly with original scale (*r* = .96) (Rodebaugh, Woods, Thissen, Heimberg, Chambless, &

Rapee, 2004).

The Social Phobia Inventory (SPIN). The SPIN (Connor et al., 2000) is a 17-item self-report measure designed to assess social phobia symptoms. Each item is measured on a 5-point Likert-type scale, ranging from 0 (*not at all*) to 4 (*extremely*). The SPIN total score has excellent internal consistency, and the internal consistency was high for the current undergraduate (α = .94) and clinical (α = .91) samples (Carlton et al, 2010). The SPIN also has good test–retest reliability (*r* =.78-.89), convergent validity, and discriminant validity (Carlton et al., 2010; Connor et al., 2000). A score of 19 serves as the cutoff between clinical and nonclinical populations (Connor et al., 2000).

Acceptance and Action Questionnaire – II (AAQ-II). The AAQ-II (Bond et al., submitted) is a 10-item measure that assesses acceptance of the willingness to experience (i.e., not alter the form, frequency, or sensitivity of) unwanted private events (e.g., I worry about not being able to control my worries and feelings.). Items are rated on a 7-point Likert-type scale ranging from 1 (*never true*) to 7 (*always true*). Preliminary evidence indicates that this measure has good internal consistency, as well as good concurrent, convergent, and construct validity. It has a .82 correlation with the previous version, as well as improved alpha levels (AAQ: Hayes et al., 2004).

White Bear Suppression Inventory (WBSI). The WBSI (Wegner & Zanakos, 1994) is a well validated 15-item questionnaire that measures the propensity to use thought suppression in everyday life, and contains statements like ‘‘I always try to put problems out of mind’’ or ‘‘I have thoughts I cannot stop.” Items are measured on a five-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Scores can range from 15 to 75 with higher scores indicating a

greater use of thought suppression. The WBSI has very good internal consistency (alphas ranging from .87 to .89) and has good test-retest reliability (r =.80).

Procedure

This study was approved by Pacific University's institutional review board prior to data collection. Heads of psychology departments in APA accredited doctoral programs were contacted via email and provided information about the study. Participants were then recruited via a brief email message sent to undergraduate students from their institution (see appendix A). If the students chose to participate, they clicked on a link embedded in the email that redirected them to the online survey via Survey Monkey. They read the informed consent form and agreed to participate by checking the appropriate box. Participants were informed of the voluntary nature of the survey. They were informed that if they wished to withdraw from the study at any time, they should exit the survey by clicking the "Exit Survey" button in the top right corner or close the survey window. Complete responses were required for each item in order to proceed with the survey. If a participant did not complete the entire survey, they were excluded from the analyses. The study took approximately 45 minutes for participants to complete. All participants were offered to be enrolled in a drawing for a chance to win one of eight $20 gift cards to Amazon.com. Participants were informed of the voluntary nature of participation and that no identifying information was collected in order to create an anonymous survey. In order to track recipient responses and still conduct an anonymous survey, email addresses were separated and exported to a separate database. Essentially, IP addressed were not collected to insure anonymity by not linking participant's email to their survey responses.

Results

Data Cleaning

The data was examined for each variable's compliance with univarite and multivariate assumptions using SPSS 19.0 (SPSS Inc, 2010). Participants who did not complete all of the questionnaires or did not meet the inclusion criteria were removed from the data set ($n = 29$) prior to analysis. Examination of each variables skewness and kurtosis variables indicated normal distributions for all the variables and therefore no transformations were performed. The data were screened for univarite outliers using a z-score cutoff rating of ± 3.29 (p <.001 two tailed test) (Tabachnick & Fidell, 2001) for each variable. One case was found to be an extremely high univariate outlier on the SPIN and was trimmed to a value of three standard deviations from the mean. The data were also screened for multivariate outliers using a Mahalanobis distance value cutoff of greater than χ^2 (4) =18.467, $p < .001$ (Tabachnick & Fidell, 2001). No multivariate outliers were detected using this method. The final sample consisted of 185 cases.

After pre-analysis data screening, the assumptions of linearity and homosedasticity were assessed using residual scatterplots and were met. Additionally, the standard residuals were normally distributed indicating that the normality assumption has been met.

Preliminary Analysis

Two one-way analyses of variance (ANOVA) were conducted to evaluate whether there were differences between genders (male, female, or other) or ethnicities on the dependent variable. There was no significant difference between gender and scores on the SPIN, $F(2, 182) = 2.28$, $p = .106$. There was also no significant difference between ethnicities on the SPIN, $F(5, 179) = .38$, $p = .86$. There was no significant correlation between age and SPIN scores, Pearson's

$r = .14$, $p = .06$. Overall, there were no statistically significant relationships between demographic variables and the dependent variable (social phobia symptoms).

Distribution Characteristics and Descriptive Statistics

The mean, standard deviation, skewness and kurtosis for each variable are displayed in Table 2. The mean and standard deviation for the BFNE ($M = 37.11$, $SD = 9.89$) in this sample is higher than non-anxious controls ($M = 26.81$, $SD = 4.78$) but below the clinical norms ($M = 46.91$, $SD = 9.27$) (Weeks at al, 2005). Furthermore, the mean and standard deviation for the SPIN ($M = 38.98$, $SD = 12.13$) is above the clinical cutoff of 19 and is closer to the clinical mean (44.80, $SD = 14.50$) (Antony et al, 2006), suggesting that the sample was elevated on social anxiety. The mean and the standard deviation for the WBSI in this sample is similar to that in the normative sample ($M = 51.00$, $SD = 8.53$) (Wegner & Zanakos, 1994) and as the AAQ-II is in press, norms are not yet established for this measure for comparison.

Table 1

Means, Standard Deviations, Skewness, and Kurtosis by Variable

Variable	Mean	SD	Skewness (SE)	Kurtosis (SE)
BFNE	37.11	9.89	-.02 (.18)	-.36 (.36)
SPIN	38.98	12.13	.43 (.18)	-.15(.36)
WBSI	49.14	11.29	-.54 (.18)	-.40 (.36)
AAQII	50.13	10.18	-.44 (.18)	-.30 (.36)

Note. BFNE = Brief Fear of Negative Evaluation, SPIN = Social Phobia Inventory, WBSI = White Bear Suppression Inventory, AAQII = Acceptance and Action Questionnaire II.

Main Hypotheses Statistical Analyses

The zero-order correlations between variables are listed in Table 3. Severity of social anxiety symptoms was negatively associated with acceptance (r = -.51, p > .001) and positively associated with fear of negative evaluation (r = .68, p > .001), and thought suppression (r = .36, p > .001).

Table 2

Intercorrelations Between Variables

	SPIN	BFNE	AAQ-II	WBSI
SPIN	--			
BFNE	.68**	--		
AAQ-II	-59**	-.51**	--	
WBSI	.34**	.36**	-.52**	--

Note. **Correlation is significant at the 0.01 level (2-tailed). BFNE = Brief Fear of Negative Evaluation, SPIN = Social Phobia Inventory, WBSI = White Bear Suppression Inventory, AAQII = Acceptance and Action Questionnaire II.

The three main hypotheses were tested using hierarchical multiple regression analyses. The results are summarized in Table 4. To test hypothesis 1, fear of negative evaluation was entered at the first step and acceptance and suppression were entered at the second step. Consistent with hypothesis 1, fear of negative evaluation was a significant predictor of social anxiety symptoms and accounted for 46% of the variance in social anxiety symptoms ($\Delta R^2 = 0.46$, $p < .001$). Acceptance and suppression collectively added 7.8% unique variance to the model ($\Delta R^2 = 0.078$, $p < .001$). Inconsistent with the hypothesis, only acceptance significantly predicted social anxiety symptoms ($\beta = -0.33$, $p < .001$), whereas, suppression was not a significant predictor ($\beta = -0.01$, $p = .85$).

Table 3

Regression Analysis Predicting Social Anxiety Symptoms from Fear of Negative Evaluation, Acceptance, and Suppression.

Predictor	β	ΔR^2	FΔ	*p*
Step 1		.46	153.14	<.001
Fear of negative evaluation	.68			<.001
Step 2		.07	15.19	<.001
Fear of negative evaluation	.51			<.001
Acceptance	-.33			<.001
Suppression	-.01			.85

Two hierarchical linear regression analyses using the Hayes and Matthews (2009) MODPROB macro for SPSS which is used for probing single-degree-of-freedom interactions in OLS and logistical regression was used to examine hypotheses 2 and 3. In both regression analyses fear of negative evaluation was the focal predictor variable, and acceptance in the first regression and suppression in the second regression were entered as moderator variables to predict social anxiety symptomatology. The complete model using acceptance as the moderator variable was significant ($F(3,181) = 69.31$, $p < 001$), accounting for 53% of the variance in social anxiety symptoms. However, inconsistent with hypothesis 2, the interaction between fear of negative evaluation and acceptance was not a significant predictor of social anxiety symptoms ($\Delta R^2 = 0.001$, $b = -.003$, $p = .56$) (see table 5). Both low and high levels of acceptance (indicated by one standard deviation below and one standard deviation above the mean) had similar slopes suggesting that there was not a significant interaction effect of acceptance on social anxiety symptoms ($b = .65$, $p < 001$ and $b = .59$, $p < 001$ respectively).

Table 4

Moderator Regression Analysis predicting Social Anxiety Symptoms, Predicting Fear of Negative Evaluation, and Acceptance

Predictor	*b*	SE	*t*	*p*
Fear of negative evaluation	.62	.07	8.58	<.001
Acceptance	-.38	.07	-5.35	<.001
Interaction Fear of negative Evaluation X Acceptance	-.003	.005	-.59	.56

Similarly, the complete model using suppression as the moderator variable was significant ($F(3,181) = 53.21$, $p < 001$), accounting for 47% of the variance of social anxiety symptoms. However, inconsistent with hypothesis 3, the interaction between fear of negative evaluation and acceptance was not a significant predictor ($\Delta R^2 = 0.001$, $b = -.003$, $p < .54$). Both low and high levels of suppression (indicated by one standard deviation below and one standard deviation above the mean) had similar slopes suggesting there was not a significant interaction effect of suppression on social anxiety symptoms ($b = .83$, $p < .001$ and $b = .75$, $p < .001$ respectively). Overall, the interactions between fear of negative evaluation and suppression and acceptance were not found to be significant predictors of social anxiety symptoms suggesting the overall moderation model was not supported.

Table 5

Moderator Regression Analysis predicting Social Anxiety Symptoms, Predicting Fear of Negative Evaluation, and Suppression

Predictor	*b*	SE	*t*	*p*
Fear of negative evaluation	.79	.07	10.68	<.001
Suppression	.12	.06	1.90	.06
Interaction Fear of negative Evaluation X Suppression	-.003	.006	-.62	.54

Discussion

There were three primary hypotheses tested in this thesis. First, it was expected that fear of negative evaluation, acceptance, and suppression would predict social anxiety symptomatology such that acceptance would show a negative relationship with social anxiety symptoms and fear of negative evaluation and suppression would show a positive relationship with social anxiety symptoms. Second, it was expected that acceptance would moderate the relationship between fear of negative evaluation and social anxiety symptoms, such that fear of negative evaluation would be more strongly related to social anxiety symptoms when acceptance was low than when acceptance was high. Third, it was expected that suppression would also moderate the relationship between fear of negative evaluation and social anxiety symptoms, such that fear of negative evaluation would be more strongly related to social anxiety symptoms when suppression was high than when suppression was low.

As expected, there was a significant relationship between fear of negative evaluation and social anxiety symptoms. Students who reported a greater fear of negative evaluation also endorsed experiencing more social anxiety symptoms. A significant relationship was also found between acceptance, suppression, and social anxiety symptoms. Students who rated themselves lower on a measure of acceptance and higher on a measure of suppression also endorsed experiencing more social anxiety symptoms. These results are consistent with previous literature that found treatments aimed at increasing acceptance and decreasing experiential avoidance to be effective in treating anxiety (Darymple & Herbert, 2007; Roemer, Orsillo, & Salters-Pedneault, 2008; Zettle, 2003). Inconsistent with the first hypothesis, suppression alone did not account for a significant amount of the variance in the regression equation but only when combined with acceptance. This may be due to fact that thought suppression may be an effective strategy for

some individuals in coping with social anxiety over a limited period of time (Abramowitz, Tolin, & Street, 2001). Specifically, thought suppression may be conceptualized as a safety behavior that can be considered subtle avoidance (Clark & Wells, 1995).

The second hypothesis, that acceptance would moderate the relationship between fear of negative evaluation and social anxiety symptoms, were not supported. The relationship between fear of negative evaluation and social anxiety symptoms remained consistent across high and low levels of acceptance. The results of this thesis are consistent with a couple other studies that found mixed results when attempting to clarify the role of acceptance in college student social anxiety (Block, 2002; Goldfarb, 2009). Although Block (2002) found that a brief treatment aimed at increasing acceptance in a socially anxious population was relatively effective, the intervention did not significantly alter the participants scores on the AAQ (Block, 2002). It may be also be the case that the newer version of the measure of acceptance (AAQ-II) used in the current study does not have strong enough construct validity for the analysis used. The use of an unpublished measure that is currently not validated on a college population is a limitation of this thesis. It is possible that a different measure of acceptance would produce a different result.

The third hypothesis, that suppression would moderate the relationship between fear of negative evaluation and social anxiety symptoms was not supported. The relationship between fear of negative evaluation and social anxiety symptoms remained consistent across high and low levels of suppression. Given that suppression was not a significant predictor of social anxiety symptoms in the regression equation, it is not surprising that the interaction was not significant.

This thesis had other limitations as well. The results are based on self-report measures and are therefore subject to response bias associated with the social desirability effect and misinterpretation of the questions. Another limitation of the thesis is possible sampling error.

Although the study sample size exceeded the number required to obtain adequate power, the sample lacked ethnic diversity and therefore the generalizability of the results are limited. Furthermore, the participants in the sample scored high on both measures of social anxiety (fear of negative evaluation and social anxiety symptoms) as their scores were closer to the clinical means than the non-clinical means. This could have had a truncated range effect on the results where variability was limited. There also could have been some inherent ability to cope with social anxiety within the sample since college students are relatively high functioning. Future research should consist of the evaluation of the effects of acceptance and suppression in more diverse and both clinically socially anxious and less socially anxious populations. An additional limitation is the cross-sectional nature of the study design. Information was collected at a single time-point and therefore no causal inferences can be made.

In conclusion, the role of acceptance and suppression in the relationship between fear of negative evaluation and social anxiety is unclear. There are limited studies to date examining the relationship of acceptance and suppression strategies for the treatment of social anxiety. Although acceptance and suppression did not moderate the relationship between fear of negative evaluation and social anxiety, acceptance was negatively predictive of social phobia symptoms even after controlling for fear of negative evaluation. This finding suggests that the role of acceptance in the development and maintenance of SAD may be more complex than originally thought. As the current findings are inconsistent with studies investigating the role of acceptance and suppression for other anxiety disorders such as generalized anxiety disorder and panic disorder (Eifert & Heffner, 2003; Levitt et al., 2004; Roemer, Orsillo, & Salters-Pedneault, 2008), the results from this thesis provide limited evidence for a possible difference mechanism of action for social anxiety. Social anxiety may have a different mechanism of action than the

previously supported literature for other anxiety disorders and may therefore be less prone to the impact of acceptance and suppression methods of anxiety regulation. Further investigation into the mechanisms of pathology and action of social anxiety will provide insight into possible adaptations to existing treatments to improve treatment outcomes.

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Appendix A

Chart 1
DSM-IV-TR Criteria for Social Phobia, 300.23

A. A marked and persistent fear of one or more social or performance situation in which the person is exposed to unfamiliar people or to possible scrutiny by others. The individual fears that he or she will act in a way (or show anxiety symptoms) that will be humiliating or embarrassing. Exposure to the feared social situation almost invariably provokes anxiety.
B. Exposure to the feared social situation almost invariably provokes anxiety which may take the form of a situationally bound or situationally predisposed Panic Attack.
C. The person recognizes that the fear is excessive or unreasonable
D. The feared social or performance situations are avoided or else endured with intense anxiety or distress
E. The avoidance, anxious anticipation, or distress in the feared social or performance situation(s) interferes significantly with the person's normal routine, occupational (academic) functioning, or social activities or relationships, or there is marked distress about having the phobia
F. F. In individuals under the age of 18 years, the duration is at least 6 months
G. The fear or avoidance is not due to the direct physiological effects of a substance or a general medical condition and it is not better accounted for by another mental disorder.
H. If a general medical condition or another mental disorder is present, the fear in criterion A is unrelated to it.

Specify if: Generalized: the fears include most social situations.

Appendix B

Contact email to be sent to Program Directors of universities:

Dear Dr. Program Director/Coordinator,

We are doctoral students with Pacific University's School of Professional Psychology. This is an invitation for students in your program to participate in our thesis study. We are conducting a study that is examining whether mindful based attention moderates the relationship between negative outcomes and ADHD and Social Phobia. Our thesis chair is Dr. Michael Christopher. We are using an online data collection method (SurveyMonkey), which includes an informed consent explaining the voluntary nature of the study and a link to the surveys, which are anticipated to take students 20-30 minutes to complete. Student names will be kept confidential and only minimal risk to students is anticipated. I have IRB approval (I can send the approval form if you wish). Please forward or distribute the following message to your students. Thank you very much in advance.

Alana Jacobs & Jackie Randall
Doctoral Candidates
Pacific University
School of Professional Psychology

Greet to be sent to students:

To whom it may concern:

We are doctoral students with Pacific University's School of Professional Psychology who are recruiting participants for involvement with our thesis. We would like to invite you to complete our survey.

We are studying whether mindful based attention moderates the relationship between negative outcomes and ADHD and Social Phobia. You will be asked questions about your everyday mindfulness, acceptance and suppression strategies, emotion regulation, and symptoms related to ADHD, Social Phobia, depression, anxiety, and alcohol use. The survey is estimated to take 30 to 45 minutes to complete.

To participate in this study, please click on the survey link below.

https://www.surveymonkey.com

If you have any questions or concerns, please email us at alanajacobs@pacificu.edu or jrandall@pacificu.edu

Thank you for your time and participation.

Alana Jacobs & Jackie Randall
Doctoral Candidates
Pacific University
School of Professional Psychology

Appendix C

Demographic Questionnaire.

1. Please indicate your gender.

Male Female

2. What is your current age? _____

3. What is your GPA? _____

4. Which group best describes your ethnicity?
___African American or Black
___Asian or Pacific Islander
___Latino or Hispanic
___American Indian or Alaskan Native
___White or of European Origin
___Other (write in)_____

Acceptance and Action Questionnaire - II

Below you will find a list of statements. Please rate how true each statement is for you by circling the item next to it. Use the scale below to make your choice.

1	2	3	4	5	6	7
never true	very seldom true	seldom true	sometimes true	frequently true	almost always true	always true

1. It's OK if I remember something unpleasant.
2. My painful experiences and memories make it difficult for me to live a life that I would value.
3. I'm afraid of my feelings
4. I worry about not being able to control my worries and feelings.
5. My painful memories prevent me from having a fulfilling life
6. I am in control of my life.
7. Emotions cause problems in my life.
8. It seems like most people are handling their lives better than I am.
9. Worries get in the way of my success.
10. My thoughts and feelings do not get in the way of how I want to live my life.

White Bear Suppression Inventory

This survey is about thoughts. There are no right or wrong answers, so please respond honestly to each of the items below. Be sure to answer every item by circling the appropriate letter beside each.

A	B	C	D	E
Strongly Disagree	Disagree	Neutral or Don't Know	Agree	Strongly Agree

A B C D E 1. There are things I prefer not to think about.

A B C D E 2. Sometimes I wonder why I have the thoughts I do.

A B C D E 3. I have thoughts that I cannot stop.

A B C D E 4. There are images that come to mind that I cannot erase.

A B C D E 5. My thoughts frequently return to one idea.

A B C D E 6. I wish I could stop thinking of certain things.

A B C D E 7. Sometimes my mind races so fast I wish I could stop it.

A B C D E 8. I always try to put problems out of mind.

A B C D E 9. There are thoughts that keep jumping into my head.

A B C D E 10. There are things that I try not to think about.

A B C D E 11. Sometimes I really wish I could stop thinking.

A B C D E 12. I often do things to distract myself from my thoughts.

A B C D E 13. I have thoughts that I try to avoid.

A B C D E 14. There are many thoughts that I have that I don't tell anyone.

A B C D E 15. Sometimes I stay busy just to keep thoughts from intruding on my mind.

Social Phobia Inventory

Please respond to the degree that the following problems have bothered you during the past week. For these items, the response options are "not at all", "a little bit", "somewhat", "very much", and "extremely".

	Not at all	A little bit	Somewhat	Very much	Extremely
1. I am afraid of people in authority.	1	2	3	4	5
2. I am bothered by blushing in front of people.	1	2	3	4	5
3. Parties and social events scare me.	1	2	3	4	5
4. I avoid talking to people I don't know.	1	2	3	4	5
5. Being criticized scares me a lot.	1	2	3	4	5
6. Fear of embarrassment causes me to avoid doing things or speaking to people.	1	2	3	4	5
7. Sweating in front of people causes me distress.	1	2	3	4	5
8. I avoid going to parties.	1	2	3	4	5
9. I avoid activities in which I am the center of attention.	1	2	3	4	5
10. Talking to strangers scares me.	1	2	3	4	5
11. I avoid having to give speeches.	1	2	3	4	5
12. I would do anything to avoid being criticized.	1	2	3	4	5
13. Heart palpitations bother me when I am around people.	1	2	3	4	5
14. I am afraid of doing things when people might be watching.	1	2	3	4	5
15. Being embarrassed or looking stupid are among my worst fears.	1	2	3	4	5
16. I avoid speaking to people in authority.	1	2	3	4	5
17. Trembling or shaking in front of others is distressing to me.	1	2	3	4	5

Brief Fear of Negative Evaluation Scale

Read each of the following statements carefully and indicate how characteristic it is of you according to the following scale

1	2	3	4	5
Not at all characteristic of me	Slightly characteristic of me	Moderately characteristic of me	Very characteristic of me	Extremely characteristic of me

1. I worry about what other people think of me even when I know it doesn't make any difference
2. I am unconcerned even if I know people are forming an unfavorable impression of me.
3. I am frequently afraid of other people noticing my shortcomings.
4. I rarely worry about what kind of impression I am making on someone.
5. I am afraid that others will not approve of me.
6. I am afraid that people will find fault with me.
7. Other people's opinions of me do not bother me.
8. When I am talking to someone, I worry about wheat they may be thinking about me.
9. I am usually worried about what kind of impression I make.
10. If I know someone is judging me, it has little effect on me.
11. Sometimes I think I am too concerned with what other people think of me.
12. I often worry that I will say or do the wrong things.